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EXAMINER

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/731,600  
Filing Date: December 09, 2003  
Appellant(s): COSTELLO ET AL.

**MAILED**  
**DEC 27 2007**  
**GROUP 1700**

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Paul Grandinetti

For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 10/31/07 appealing from the Office action mailed 3/2/07.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

5,652,201	PAPAY et al	29 July 1997
4,995,993	PAPKE et al	26 February 1991
3,198,737	Calhoun	3 August 1965
2004/0180798	HARTLEY et al	16 September 2004

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

Claims 12-18 stand rejected under 35 USC 112, first paragraph, as failing to comply with the written description requirement. The claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

Claim 12 and its dependent claims require a sedimentation rate of no more than about 0.005% per week at 70° C for at least 12 weeks. However, the specification (page 7 lines 18-20, page 10 lines 7-10, and Tables 1-3), as originally filed, places a lower bound of about 0.001% per week on the sedimentation rate. The claims therefore encompass a broader range (a value less than about 0.001% per week sedimentation rate for at least 12 weeks, for example), than is supported by the specification. Similarly, the specification does not describe a sedimentation rate of no more than 0.005% for an

infinite period extending beyond 12 weeks, as recited in the amended claim.

Additionally, there is no evidence of a sedimentation rate of less than 0.005% per week for a composition containing amorphous overbased calcium sulfonate in a concentration other than 10%. The application as originally filed therefore does not describe the subject matter recited in claims 12-18.

Claims 12-15 stand rejected under 35 USC 103(a) as being unpatentable over Papay (U.S. Pat. No. 5,652,201) in view of Papke (U.S. Pat. No. 4,995,993).

Papay discloses in column 13 line 43 an overbased calcium sulfonate, as recited in component (b) of claim 12, as a preferred metal detergent additive for a lubricating composition, and in column 45 lines 39-43 discloses an alkanolamine reacted with a fatty acid as a supplemental dispersant additive, as recited in component (c) of claim 12. The alkanolamine can be triethanolamine, as recited in claim 15. Although the latter additive is not disclosed specifically as a friction modifier, case law holds that a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963). In this case, the reaction product of an alkanolamine with a fatty acid can also act as a friction modifier. Papay further discloses in columns 47-49 lubricant oil stocks, as recited in component (a) of claim 12, to be combined with the additive mixture that includes the overbased

calcium sulfonate and alkanolamine/fatty acid reaction product. In column 8 lines 46-47 Papay discloses that the overbased metal detergents, such as the calcium sulfonate discusses above, preferably have a TBN of at least 400, meeting the limitation of claim 14.

Claim 12 recites the functional limitation of an amorphous overbased alkaline earth metal sulfonate present in a composition in an amount sufficient to provide a sedimentation rate of no more than about 0.005% per week at 70° C for at least 12 weeks. The specification has been referred to solely in an attempt to ascertain the scope of this limitation, specifically what amount of which type of alkaline earth metal sulfonate constitutes a "sufficient" amount.

In all of the examples from the specification where reduced sedimentation is observed (examples 5-8, 13-16, and 23-28), the amorphous overbased alkaline earth metal sulfonate is calcium sulfonate, present in an amount of 10% by weight of the composition. Therefore, a lubricant composition comprising 10% by weight of amorphous overbased calcium sulfonate will meet the functional limitation of a "sufficient amount" of an amorphous overbased alkaline earth metal sulfonate in claim 12.

In the table in column 50 lines 12-15, Papay discloses that a preferred concentration for an overbased detergent (component a) in a lubricant composition is between 0.01 and 10% by weight, with the 10% endpoint matching the 10% sufficient to provide the required sedimentation rate.

The differences between Papay and the currently presented claims are that Papay does not disclose whether the overbased calcium sulfonate is amorphous, and Papay does not disclose the particle size of the overbased calcium sulfonate.

Papke discloses an improved process for producing overbased metal sulfonate detergents. In column 4 lines 56-59 Papke teaches that a preferred amorphous calcium sulfonate with a TBN of 400, meeting the limitations of claim 14 and consistent with the required TBN of Papay discussed above, has a particle size of 100 to 150 Å (10-15 nm), falling within the range recited in claim 13. Papke provides further examples of amorphous overbased calcium sulfonates with suitable TBNs in Table I. The use of the amorphous overbased calcium sulfonate of Papke as the overbased calcium sulfonate in the composition of Papay therefore meets the limitations of claims 12-15.

It would have been obvious to one of ordinary skill in the art to use the amorphous overbased calcium sulfonate of Papke as the overbased calcium sulfonate in the composition of Papay, as Papke teaches in column 1 lines 36-47 that compositions containing crystalline products can be unacceptably hazy or have poor stability.

Claim 16 stands rejected under 35 USC 103(a) as being unpatentable over Papay (U.S. Pat. No. 5,652,201) in view of Papke (U.S. Pat. No. 4,995,993) as applied to claims 12-15 above, and further in view of Hartley (U.S. PG Pub. No. 2004/0180798).

The discussion of Papay in view of Papke above is incorporated here by reference. Papay also discloses from column 46 line 52 through column 47 line 12 that

friction modifiers are also useful lubricant additives, but only teaches broad classes of compounds, not specific additives.

Hartley, in paragraph 8 and the reference's Claim 5, discloses a lubricating oil composition comprising a friction modifier formed by the reaction of triethanolamine and a fatty acid, where suitable fatty acids are described in paragraph 8 lines 4-11, including oleic, erucic, and tall oil fatty acids as recited in claim 16, and also including several naturally occurring fatty acid compositions comprising some of the acids recited in claim 16.

It would have been obvious to one of ordinary skill in the art to include in Papay the specific additives disclosed by Hartley in order to improve fuel economy, as taught by Hartley in paragraphs 1-2 and 58-59.

Claims 17-18 stand rejected under 35 USC 103(a) as being unpatentable over Papay (U.S. Pat. No. 5,652,201) in view of Papke (U.S. Pat. No. 4,995,993) as applied to claims 12-15 above, and further in view of Calhoun (U.S. Pat. No. 3,198,737).

The discussion of Papay in view of Papke above is incorporated here by reference. Papay also discloses from column 46 line 52 through column 47 line 12 that friction modifiers are also useful lubricant additives, but only teaches broad classes of compounds, not specific additives.

Calhoun discloses in Example I a friction modifier compound comprising a diethylene glycol dioleate, a reaction product of diethylene glycol and methyl oleate, as recited in Claims 11 and 18, and in Example V Calhoun discloses a friction modifier



comprising a thiodiglycol (2,2'-thioethanol) dioleate, a reaction product of thiodiglycol with methyl oleate as recited in Claims 10 and 17.

It would have been obvious to one of ordinary skill in the art to include in Papay the additives taught by Calhoun, due to their utility at extreme pressures as disclosed in column 1 of Calhoun.

### **(10) Response to Argument**

#### **Rejection under 35 U.S.C. § 112, First Paragraph**

Appellant argues that the disclosure on page 10 line 9 of the specification on page 10 at line 9 that the invention provides a sedimentation rate of "typically about 0.001 to about 0.005" contradicts the examiner's statement that there is no evidence in the application as originally filed for a sedimentation rate below about 0.001%. To the contrary, the passage cited by appellant supports the examiner's position, as it recites "about 0.001%" as the lower bound of the range of sedimentation rates provided by the invention. Additionally, the application as originally filed provides no support for a sedimentation rate of less than 0.005% per week for a period of time beyond 12 weeks. There is therefore no evidence that appellant was in possession of the full scope of the invention recited in claim 12, which even encompasses compositions with a sedimentation rate of zero for an infinite period of time.

**Rejection under 35 U.S.C. § 103**

Appellant argues that Papay and Papke fail to disclose the claimed combination or concentration of compounds required to reduce sedimentation. As stated in the rejections above, Papay and Papke disclose a composition comprising a lubricant oil stock, an amorphous overbased calcium sulfonate, and a friction modifier, as recited in claim 12. Papay teaches that the calcium sulfonate is present in a range of concentrations that overlaps or encompasses the range sufficient to provide the sedimentation rate recited in claim 12. The composition of Papay and Papke therefore intrinsically meets the sedimentation rate limitation of claim 12. While Papay and Papke do not disclose this reduced sedimentation rate, the fact that appellant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

Appellant argues that Papay teaches away from the claimed composition by "instructing one of ordinary skill to form an 'indispensable additive ingredient' which is a reaction product with the ashless dispersant and an inorganic phosphorus acid". Appellant appears to have conflated two separate components of the composition of Papay. The overbased metal sulfonate is "component a" of Papay, and the reaction product of the ashless dispersant and inorganic phosphorus acid is "component b". The overbased metal sulfonate is not reacted with the ashless metal dispersant or inorganic phosphorus acid. As the composition of claim 12 can contain additives other than the overbased metal sulfonate and friction modifier due to the open-ended "comprising

language" in the preamble, the presence of other additives in the composition of Papay does not teach away from the claimed composition. It is also noted that while Papay discloses the reaction product of an alkanolamine with a fatty acid as a supplemental dispersant (column 45 lines 35-44), Papay explicitly teaches that these supplemental dispersants are *not* phosphorylated or boronated (column 44 lines 60-65).

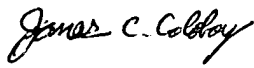
On several occasions, appellant refers to the sedimentation rate recited in claim 12 as an "unexpected result". However, appellant has not submitted evidence of unexpected results sufficient to rebut a *prima facie* case of obviousness. The data presented in Tables 1-4 of the specification comparing sedimentation rates achieved with amorphous overbased calcium sulfonate ("C400CLR") with those achieved with crystalline overbased calcium sulfonates ("C300CS") is not commensurate with the scope of any of claims 12-18, as all the examples contain 10% of the overbased compound, 0.5% of specific friction modifiers, and a specific lubricating oil stock (Hyprene H100), while the claims recite any concentration of overbased compound sufficient to obtain the recited sedimentation rate, any concentration of friction modifier within the recited classes, and any lubricating oil stock. Examples 59-74 in the specification, which compares the sedimentation rates of compositions comprising various friction modifiers, utilizes only crystalline C300CS, and the results reported in Table 7 of the specification are therefore not applicable to the currently presented claims.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

  
James Goloboy

Conferees:

Glenn Caldarola



/Romulo H. Delmendo/

Romulo H. Delmendo